

- The numerators and denominators are much greater for county rates. This is particularly important for rare diseases. City rates are more sensitive to counting errors due to mistaking residences on death certificates and to differences between the numerators and denominators regarding residence status of persons in certain large institutions.

There are other contrasts but these seem to be some essential ones. The first two favor the use of city rates and the remaining ones tend to favor county rates. While investigators recognize most of these, it appears that the first item mentioned in the list is often unrecognized or else its importance is considered secondary to some of the others.

A statistical comparative study is currently underway to determine the extent of the differences between city and county adjusted mortality rates and to inquire as to what factors determine such differences.

Where from Here?

According to the Division of Vital Statistics, National Center for Health Statistics, that agency has for several years recommended that states collect residence information that is completely consistent with Census enumeration practices. To date, however, this has not been done in North Carolina or any of several other states investigated; and to do so will amount to a tremendous effort in terms of re-educating registrars, funeral directors, physicians, hospitals and others involved in the registration of vital events. Also, this will not solve problems inherent in traditional birth and fertility rates or death rates unadjusted for age; denominators will still overrepresent the "true" population at risk.

Thus, there presently seems no immediate solution to the problems of small area statistics, and we can only suggest the following:

- Persons using population-based city and county rates of any kind should be acutely aware of possible inconsistencies between the Census and their particular data. It is recommended that city rates not be used to study rare events at this time.
- Health Departments (registrars) serving cities with well-populated areas outside corporate limits should set in place some mechanism for assuring that city vital event counts exclude residents of those outlying areas; else, counts of births, deaths, etc. will be inflated.
- The Vital Records Branch (VRB) of the Division of Health Services and local registrars should work to insure that funeral directors and hospitals understand and abide by state regulations with respect to residence allocation.
- The VRB should receive notification from the Office of State Budget and Management and inform local registrars and funeral directors of city annexations in order that city counts of vital events be more accurate.